

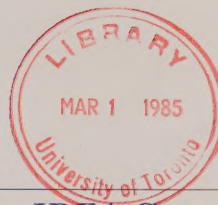


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**The Innovators, a periodic newsletter from IDEA Corporation, is about people: people whose exciting ideas for new products and processes are being taken to the marketplace with IDEA's help. This issue is about the business of invention and two Ontario innovators. One is a newcomer to the field of invention; the other has enjoyed a long history of successful inventions.**

**E**dna Wallhead was frustrated. As an associate professor of nursing at Thunder Bay's Lakehead University, she had been teaching her students a post-operative procedure that she felt was antiquated and awkward. She believed there had to be a better way.

After much thought, Edna hit upon an idea for a device that would make the procedure easier. The challenge was to bring her first invention to fruition.

Edna consulted Robert Rosehart, then Dean of University Affairs and now President of Lakehead. He foresaw the potential of her idea and realized the first priority was to obtain a patent for the device. Edna wrote to patent lawyers. Their responses indicated it would be difficult to do a thorough search since her device might have applications in fields widely removed from nursing. Additionally, they pointed out that the cost in filing a patent application could be more than \$3,000.

Edna didn't know where to turn next. Not only did she need financial assistance, she required counselling from someone experienced in developing inventions into commercial products. Unable to continue on her own, she had almost abandoned her idea when Dr. Rosehart invited her to attend a meeting with two representatives from IDEA Corporation. They were visiting Lakehead to seek out promising innovations that would fill the needs of the marketplace.

The meeting proved to be a psychological boost for Edna; the IDEA representatives appeared to be interested in exploring the commercial potential of her device and she had renewed hope that something might develop from her idea. "With all the chemical



engineers and qualified researchers present at the meeting, I was frankly amazed that IDEA would be interested in my simple device," confessed Edna later.

Because Edna's idea was at such an early stage, IDEA hired consultant Harold Humphrey to review her innovation. His task was to determine the marketability of the device, assess the possibility of a patent, estimate the cost of producing a prototype and identify prospective users or licensees of the innovation.

Harold Humphrey is no stranger to invention. He is one of 25 people in Canada that make a living from inventing. A professional engineer, and full-time inventor since 1959, Harold has more than 100 patents on innovations as diverse as the hand lotion pump dispenser and the push-button seat-belt

*Lakehead University's Edna Wallhead is learning about the business of inventing.*



*Harold Humphrey demonstrates robotic arm that assists him in developing prototypes.*



buckle used in General Motors automobiles. Another is the patent for the largest reinforced plastic tank in the world—seamless storage tanks that are used for waste chemicals and boiler feed water storage.

A nominee last year for the prestigious Canada Awards for Excellence, he also was honored in 1981 with the Society of the Plastics Industry of Canada's CANPLAST Award for his leadership and continuous contribution to the plastics industry. In fact, he has received several Canadian Plastics Achievement Awards for new products he developed.

But Harold does not keep secret his skill in developing successful inventions. He has been the focus of numerous magazine articles, has



*Edna Wallhead is looking to successful inventor Harold Humphrey for advice.*

appeared on the CBC series "Eureka" and was interviewed by David Frost for a special "David Frost over Canada" show on successful inventors. Harold is a Director, Canadian Patents & Development Limited and a keen supporter of the Canadian Industrial Innovation Centre in Waterloo and the Centre for Industrial Develop-

ment in Montreal, both centers that assist inventors in the evaluation and commercial development of their inventions.

He believes the essential quality that makes a successful inventor is good business sense. "I'm a businessman. I'm in the inventing business," says Harold. Drawing on his own experience, he says that an invention is 2 percent inspiration and 98 percent hard work.

Harold is forever on the lookout for industrial problems. If he's able to solve them, they can often result in patents and a good financial return on the effort. That is why Harold believes Edna Wallhead's invention will be successful. "She has done something

extremely valuable. She was determined to improve a procedure and saw a need to reduce infection. You're 80 percent toward a successful invention if you fill a need."

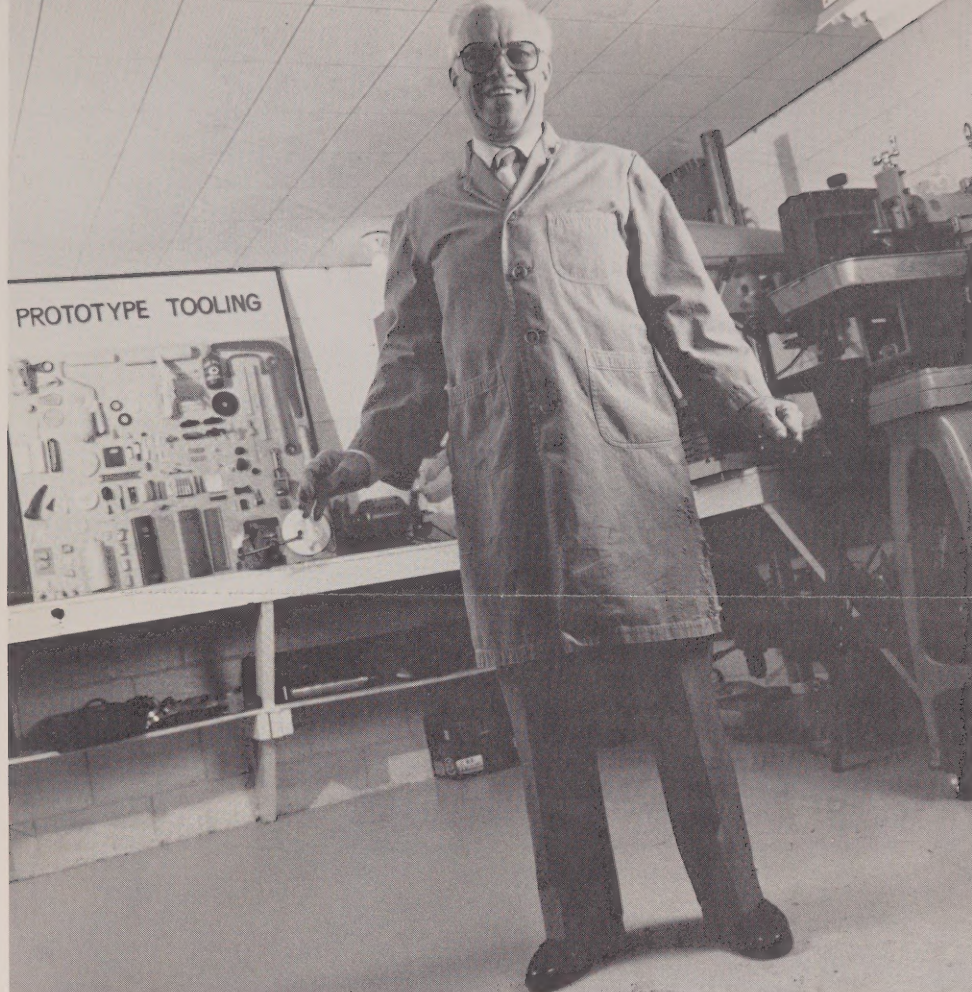
## Steps towards commercialization

Once you have the idea, Harold stresses it is most important to convert it into a working prototype as quickly as possible and at the least expense. If the working prototype cannot sell itself, Harold advises discontinuing the project. With Edna, Harold found that her design of the surgical device was more sophisticated than it needed to be. Work is underway, in Harold's basement workshop, to come up with a prototype that is simple, effective and inexpensive to produce. Working models are essential to demonstrate any flaws in an invention, and for meaningful market surveys. Once both Harold and Edna are satisfied with the prototype of her surgical device, 100 will be made for hospital testing.

While producing the initial working model, Harold recommends having a patent search done. The results of that search will indicate if the idea has been patented before, or if the chance of obtaining a patent is good. Harold warns inventors not to tell others the specifics of their inventions until the patent application is filed—in his opinion, there is no protection until then.

Once the patent application has been made, the inventor will receive notice that the application has been received and given an application number. This stage is referred to as "patent pending" or "patent applied for." Harold says this is when the hard work begins, and your skills in business must be honed. "If you have a good invention and a good patent, you are 5 percent there." If the invention is to be a commercial success, it will take a great deal of money and effort. Harold recommends that inventors attempt to have their inven-





*The basement workshop of  
Harold Humphrey.*

tions licensed. "To leave your job, start a company and manufacture the invention yourself is very risky." That is why Harold and IDEA are currently searching the marketplace for potential licensing opportunities for Edna's device.

Since a big gap exists between the inventor and the market, Humphrey recommends using other resources. "Before you spend a bundle of money, or time, have your invention assessed at the Canadian Industrial Innovation Centre in Waterloo. They can determine whether you are on the right track, or merely wasting your time. The individual inventor needs good, unbiased advice concerning patents, market surveys, the availability of venture capital, government programs, the names of companies that might be interested in the invention, and what is important in a licensing agreement."

Paul Peter, Manager, New Product Services

Group of the Innovation Centre in Waterloo, concurs with Harold. "Even the most successful inventors frequently have more failures than commercially viable developments. We recommend to only one-third of the inventors that they continue their efforts after our preliminary review—even that doesn't guarantee commercial success."

Every individual inventor, even the successful ones like Harold, have failures. "Don't be discouraged. If you have an idea that's going nowhere, drop it and start trying to solve existing problems, rather than dreaming up new ideas at random."

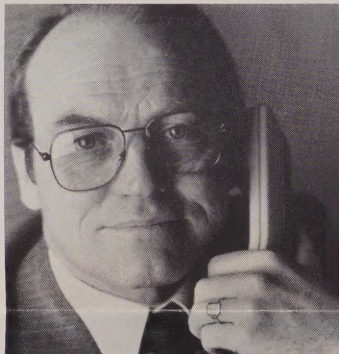
Edna Wallhead is doing just that. The fact that her device is proceeding on its way to commercialization has given her confidence to look for other situations in the nursing profession that could be improved. Harold Humphrey is not surprised. "She's hooked on a new career—the business of inventing." ▼





*Middlefield's executive discuss an investment proposal. l. to r. — Gordon Leonard, President; Murray Brasseur, Director; D.L. (Sandy) Sinclair, Chairman.*

*Gordon L. Leonard, head of new \$32 million investment fund.*



## Technology Fund Ready for Investment

One way IDEA helps encourage new technology-based firms is by investing with private investors in Ontario-based venture capital syndications. One such fund recently completed its fund-raising process successfully and began to search for investment opportunities.

The syndication is the Middlefield Capital Fund, an investment trust created to finance a broad range of industries including information-related technologies using micro-electronics and telecommunications. It's headed by Gordon Leonard, President.

Earlier this year, Middlefield reached a full subscription of \$32.1 million, exceeding its original maximum target of \$30 million. Of that total, IDEA has invested \$10 million for a 31.2% share of the fund. Other investors include financial institutions, large pension funds and major corporations.

Middlefield is now actively seeking companies with exceptional growth potential — usually companies that have progressed beyond the start-up stage and require new capital for accelerated growth. However, Middlefield will consider investing in an embryonic business where a qualified group of entrepreneurs has a well-prepared business plan. Taking a minority position, Middlefield seeks initial investments in the range of \$250,000 to \$1,000,000.

Middlefield welcomes inquiries and can be contacted at First Canadian Place, 58th Floor, P.O. Box 192, Toronto, Ontario M5X 1A6, or telephone (416) 362-8602.

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